

### REMARKS

Claims 1-44 are pending in the application. Claims 15-36 and 42-44 are withdrawn from consideration subsequent to a restriction requirement. Claims 1-14 and 37-41 are under examination; pending claim 11 is amended in this response. Applicants note that subsequent to entry of the preliminary amendment filed October 29, 2002, which amended claims 15, 19, 24, 26, and 44, withdrawn claims 15-36 and 42-44 incorporate all of the limitations of one or more of the product claims 1-14 and 37-41 under examination. Upon indication of one or more allowable product claims, Applicants respectfully request rejoinder of the corresponding withdrawn claims as permitted by MPEP § 821.04.

#### *Information Disclosure Statements*

An Information Disclosure Statement, with 42 accompanying references, was filed in this application by first-class mail on January 10, 2002. Applicants have received the return receipt postcard that accompanied that Information Disclosure Statement, indicating that it was received by the Office of Initial Patent Examination on January 18, 2002. However, the form PTO-1449 accompanying that Information Disclosure Statement was not returned with the Office Action mailed March 25, 2003. Applicants respectfully request that the Examiner consider and make of record the references disclosed in that Information Disclosure Statement, and return the initialed PTO-1449. If the Information Disclosure Statement mailed January 10, 2002 cannot be found in the application file, the Applicants can provide duplicate copies of the Information Disclosure Statement, PTO-1449, and accompanying references upon the request of the Examiner.

The Applicants thank the Examiner for initialing and returning the forms PTO-1449 mailed February 6, 2002 and March 20, 2002 by first-class mail, and October 29, 2002 by Express Mail.

*Rejection under 35 U.S.C. § 102(b)*

Claims 1, 4-6, 9-11, and 13-14 were rejected under 35 U.S.C. § 102(b) over Misra et al. (123CA:79654, 1995) or Rukunga et al. (125CA:163232, 1996) or Mar et al. (116CA:207412, 1991).

This rejection is respectfully traversed. For a reference to anticipate a claim under 35 U.S.C. § 102, the reference must disclose each and every limitation of the claim.

Rukunga, Misra, and Mar disclose cyclic compounds with 4 nitrogen atoms and 4 alkyl segments in the ring. Claims 1, 4 and 5 are directed to cyclic compounds with (among other differences) either 3, 5, or 6 nitrogen-alkyl segments in the ring. Thus neither Rukunga, Misra, nor Mar disclose all of the limitations of claims 1, 4 and 5, and reconsideration and withdrawal of this rejection is respectfully requested.

Rukunga, Misra, and Mar disclose cyclic compounds where the alkyl segment located between the two nitrogens farthest from the carbonyl carbon must have four carbon atoms. Claims 6, 9, and 10 are directed to cyclic compounds which (among other differences) exclude a four-carbon chain (note that the definition of A<sub>2</sub> in claim 6 precludes a C<sub>4</sub> alkyl group, and that claims 9 and 10 are dependent on claim 6). Thus neither Rukunga, Misra, nor Mar disclose all of the limitations of claims 6, 9, and 10, and reconsideration and withdrawal of this rejection is respectfully requested.

Rukunga, Misra, and Mar disclose cyclic compounds where the groups attached to the non-amide nitrogens must be either -H or -CH<sub>3</sub>. Claim 11 as currently amended and claims 13 and 14 are directed to compounds which (among other differences) exclude these possibilities. Thus neither Rukunga, Misra, nor Mar disclose all of the limitations of claims 11, 13, and 14, and reconsideration and withdrawal of this rejection is respectfully requested.

*Rejection under 35 U.S.C. § 103*

Claims 1-14, 37-38, and 41 were rejected under 35 U.S.C. § 103 in view of Misra, Rukunga, and Mar, and Applicants' admission on the record.

Clarification is requested regarding the Examiner's comment that the Applicants "...admit on the record (see specification at page 24 (spermidine and spermine)) the claimed compounds as old and well known..." Spermidine and spermine are linear compounds, and are significantly different than the cyclic compounds of the invention. While spermidine and spermine are used as reactants in some steps in certain embodiments of the synthetic methods, the synthesis alters those reactants to a great degree from their original structure. It is thus unclear as to how spermidine and spermine are being applied against the claims of the invention. Applicants respectfully request that the Examiner indicate how the claims are considered obvious in view of spermidine and spermine with specific reference to the limitation(s) of the claims.

Claims 1-5 are directed to cyclic compounds with either 3, 5, or 6 nitrogen-alkyl segments in the ring, which is a significant alteration of the ring size and characteristics compared to the compounds as disclosed in Rukunga, Misra, and Mar. Rukunga, Misra, and Mar disclose cyclic compounds with 4 nitrogen atoms and 4 alkyl segments in the ring, and the compounds disclosed in those publications are quite distinct chemically from the compounds of claims 1-5. Thus claims 1-5 cannot be considered obvious in view of Rukunga, Misra, and Mar, and withdrawal of this rejection is respectfully requested.

Claims 6-10 are directed to cyclic compounds where the alkyl segment defined by A<sub>2</sub> cannot be -CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>-. In the compounds disclosed by Rukunga, Misra, and Mar, the corresponding segment is always -CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>-. This is a significant difference, in that the interaction of these compounds with DNA is influenced by the distance between nitrogen atoms in the compound. Thus claims 6-10 cannot be considered obvious in view of Rukunga, Misra, and Mar, and withdrawal of this rejection is respectfully requested.

Claim 11 as currently amended and claims 12-14 are directed to cyclic compounds where the substituents on the nitrogens cannot be hydrogen or methyl groups, whereas in the compounds disclosed by Rukunga, Misra, and Mar, the corresponding groups must be hydrogen or methyl. In view of steric effects of these substituents on the interaction of the nitrogen atoms

of the compounds with DNA, this difference in nitrogen substitution is a significant difference. Thus claims 11-14 cannot be considered obvious in view of Rukunga, Misra, and Mar, and withdrawal of this rejection is respectfully requested.

Rukunga, Misra, and Mar disclose cyclic compounds containing an amide function in the ring. Claims 37, 38, and 41 disclose cyclic compounds with (among other differences) no amide function in the ring, a very significant chemical distinction from the compounds disclosed in Rukunga, Misra, and Mar. The compound of claim 41 also bears a linker group ( $A_4$ ), a nitrogen group external to the ring, and a peptide or amino acid, none of which are disclosed in Rukunga, Misra, or Mar. Thus neither Rukunga, Misra, nor Mar render claims 37, 38, or 41 unpatentable under 35 U.S.C. § 103.

Applicants note that the only objection to claims 39 and 40 was dependence on a rejected claim. As the rejected claims are believed to be patentable in view of the remarks above, withdrawal of the objection to claims 39 and 40 is respectfully requested.

## CONCLUSION

Applicants submit that all outstanding issues (the rejection under 35 U.S.C. § 102(b), the rejection under 35 U.S.C. § 103, and the objection to claims 39 and 40) have been addressed. Reconsideration and allowance of the pending claims is earnestly solicited. Should the Examiner believe that a telephone conference would be of use in resolving any issues, he is invited to contact the undersigned agent at the telephone number below.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 376462000800.

Respectfully submitted,

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